

Amdt. dated July 16, 2009

Reply to Notice of Non-Compliant Amendment of June 16,
2009

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A **chimeric construct composition useful for treatment of microbial organisms, said construct** comprising a fusion protein wherein a targeting moiety **that specifically recognizes a target microbial organism is attached to and** an anti-microbial peptide, **and where said construct is specifically targeted to, and moiety,** **wherein the targeting moiety is coupled to the anti-microbial peptide moiety and recognizes a target microbial organism and wherein the composition** has an anti-microbial effect on the target microbial organism.
2. (Withdrawn) The composition of claim 1, wherein the targeting moiety is a peptide.
3. (Withdrawn) The composition of claim 2, wherein the targeting moiety is coupled to the anti-microbial peptide moiety via a peptide linker.
4. (Withdrawn) The composition of claim 1, wherein the targeting moiety is a minibody.
5. (Withdrawn) The composition of claim 1, wherein the targeting moiety is selected from a group consisting of a scFv, minibody, Di-miniantibody, Tetra-miniantibody, (scFv)₂, Diabody, scDiabody, Triabody, Tetrabody, and Tandem diabody.
6. (Withdrawn) The composition of claim 1, wherein the targeting moiety comprises all or a portion of a variable region of an antibody.

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7. (Withdrawn) The composition of claim 6, wherein the antibody is a monoclonal antibody specific to *S. mutans*.

8. (Withdrawn) The composition of claim 7, wherein the antibody is selected from the group consisting of SWLA1, SWLA2, and SWLA3.

9. (Withdrawn) The composition of claim 1, wherein the targeting moiety comprises a variable region of a light chain and a variable region of a heavy chain of an antibody.

10. (Withdrawn) The composition of claim 9, wherein the targeting moiety further comprises a constant domain.

11. (Withdrawn) The composition of claim 10, wherein the constant domain is connected to the variable region of the heavy chain by a peptide linker.

12. (Withdrawn) The composition of claim 10-comprises a dimer, wherein each monomer of the dimer comprises a fusion polypeptide containing the targeting moiety and the anti-microbial peptide moiety.

13. (Withdrawn) The composition of claim, 1, wherein the targeting moiety is a ligand to a receptor of the target microbial organism.

14. (Withdrawn) The composition of claim 1, wherein the anti-microbial peptide moiety comprises a peptide selected from the group consisting of alexomycin, andropin, apidaecin, bacteriocin, β -pleated sheet bacteriocin, bactenecin, buforin, cathelicidin, α -helical clavanin, cecropin, dodecapeptide, defensin, β -defensin, α -defensin, gaegurin, histatin, indolicidin, magainin, nisin, protegrin, ranalexin, and tachyplesin.

15. (Withdrawn) The composition of claim 1, wherein the anti-microbial peptide moiety comprises histatin 5.

16. (Withdrawn) The composition of claim 1, wherein the antimicrobial peptide moiety comprises a peptide comprising an amino acid sequence of SEQ ID NO.2.

17. (Withdrawn) The composition of claim 1, wherein the anti-microbial peptide moiety comprises dhvarl.

18. (Withdrawn) The composition of claim 1, wherein the antimicrobial peptide moiety comprises a peptide comprising an amino acid sequence of SEQ ID NO.6.

19. (Withdrawn) The composition of claim 1, wherein the anti-microbial peptide moiety comprises protegrin PG-1.

20. (Withdrawn) The composition of claim 1, wherein the antimicrobial peptide moiety comprises a peptide comprising an amino acid sequence of SEQ ID NO. 15.

21. (Currently amended) The chimeric construct composition of claim 1, wherein the anti-microbial peptide **moiety** comprises Novispirin G10.

22. (Currently amended) The chimeric construct composition of claim 1, wherein the anti-microbial peptide **moiety** comprises a peptide comprising an amino acid sequence of SEQ ID NO. 17.

23. (Currently amended) The chimeric construct composition of claim 1, wherein the target microbial organism is selected from the group consisting of bacteria, rickettsia, fungi, yeasts, protozoa, and parasites.

24. (Currently amended) The chimeric construct composition of claim 1, wherein the target microbial organism is a cariogenic organism.

25. (Withdrawn) The composition of claim 1, wherein the target microbial organism is *Streptococcus mutans*.

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26. (Withdrawn) The composition of claim 25, wherein the anti-microbial peptide moiety comprises a peptide selected from the group consisting of histatin 5, dhvar 1, protegrin PG-1, and Novispirin G10.

27. (Currently amended) The chimeric construct composition of claim 1, wherein the target microbial organism is selected from the group consisting of *Escherichia coli*, *Shigella dysenteriae*, *Salmonella typhimurium*, *Streptococcus pneumoniae*, *Staphylococcus aureus*, and *Pseudomonas aeruginosa*.

28. (Withdrawn) The composition of claim 27, wherein the anti-microbial peptide moiety comprises a peptide selected from the group consisting of buforin, cecropin, indolicidin, and nisin.

29. (Currently amended) The chimeric construct composition of claim 1, wherein the target microbial organism is selected from the group consisting of *Escherichia coli*, *Shigella dysenteriae*, *Salmonella typhimurium*, *Streptococcus pneumoniae*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Candida albicans*, *Cryptococcus neoformans*, *Candida krusei*, and *Helicobacter pylori*.

30. (Withdrawn) The composition of claim 29, wherein the anti-microbial peptide moiety comprises a peptide selected from the group consisting of magainin and renalexin.

31. (Withdrawn) The composition of claim 1, wherein the target microbial organism is *herpes simplex virus* and the anti-microbial peptide moiety comprises a peptide of magainin.

32. (Withdrawn) The composition of claim 1, wherein the target microbial organism is selected from the group consisting of *Streptococcus mutans*, *Neisseria gonorrhoeae*, *Chlamydia trachomatis*, and *Haemophilus ducreyi* and wherein the antimicrobial peptide moiety comprises a peptide of protegrin.

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33. (Withdrawn) The composition of claim 1, wherein the target microbial organism is selected from the group consisting of *Camphylobacter jejuni*, *Moraxella catarrhalis*, and *Haemophilus influenzae* and wherein the anti-microbial peptide moiety comprises a peptide of alexomycin.

34. (Withdrawn) The composition of claim 1, wherein the target microbial organism is *Streptococcus pneumoniae* and the anti-microbial peptide moiety is selected from the group consisting of defensin, α defensin and β pleated sheet defensin.

35-48. (Canceled).